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# CORN WITH THE BORER

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## TOLEDO DEVELOPMENT FARM HUMS WITH ACTIVITY

Two large screen cages, probably the largest ever used in entomological experiments, are now going up over two 1-acre corn plots on the Toledo Development Farm to determine among other things that old question as to just how many borers survive clean plowing. The plots were plowed for corn-borer control and the corn in the cages will remain screened during the flight of the corn-borer moths, after which the cases will be dismantled and stored for similar experiments another season.

The 300-acre farm devoted to corn-borer problems is also being put in readiness for the opening of scouting schools early in July. Several hundred corn-borer scouts will assemble here for two weeks' instruction on how to locate borers in the stalks and the method of procedure in conducting the work. Courtesy to farmers and others with whom they come in contact will also be emphasized. About 600 scouts will be trained on this farm during the season. Scouting to determine the natural spread of the borer during the 1928 season will begin about the middle of July.

Several new types of burners, and various machines for the disposal of stalks are being tried out here. Plowing experiments to determine the efficiency of various machines in different types of soil and under varying conditions are well under way in the Toledo area. In addition to a very full program of research, the problem of substances which will repel or attract the borer moths is also being given further study.



#### ILLINOIS PREPARES FOR THE CORN BORER

Varieties of corn grown to best advantage in Illinois are being tried out under conditions of corn-borer infestation at the Toldeo Development Farm. This work is being done by the Illinois departments of entomology and agronomy cooperating with the United States Department of Agriculture.

#### MICHIGAN STUDIES THE PROBLEM

"More than 20 projects are in progress at the Michigan Corn-Borer Laboratory, Monroe, Mich., the results of which will be announced after the fourth year. The date of planting project alone comprises 416 plats, using the dent, flint, pop, and sweet types of corn.

"A new experiment this year is the miscellaneous crop project. The most important Michigan farm crops, vegetables, and flowers will be subjected to corn-borer conditions in an effort to determine what damage the pest may do to them."

#### LOW-CUTTING DEVICES TESTED

Several improvements for the low-cutting devices for corn were developed last year and are now being tried out by Government engineers in the Lower Rio Grande Valley. It is yet too early to predict the results but they would seem to be encouraging.

The low-cutting attachments for cornbinders were made available last year and under favorable conditions cut 80 to 90 per cent of the stubble 2 inches or less in height. This, with adequate disposal of stalks, is considered sufficient for good corn-borer control.

The present tests are being conducted near Mercedes, Tex.

#### STATES COLLECT FOR COMPULSORY CLEAN-UP

The matter of collecting from the farmers in last year's clean-up area who did not clean up their cornfields according to the regulations is going ahead in Michigan, Ohio, Pennsylvania, and New York.

In Ohio, the amounts are being transmitted to the various county auditors and added to the tax lists. In Michigan, the accounts were transmitted to the various county treasurers early in the year and a large proportion has already been collected. In Pennsylvania, bills have been sent to the property owners by the State department of agriculture and a large proportion of the amounts assessed has already been collected. In New York, the property owners were also billed by the State department and most of the amount has already been paid.

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## PAPER FROM CORNSTALKS

Dr. F. P. Veitch\*



A profitable method of disposal of cornstalks that would insure their complete and timely disintegration would obviously be one of the most effective weapons in fighting the corn borer. And if this profitable disposal could be made on the individual farms where the cornstalks are grown the effectiveness of the weapon would be materially increased. Unfortunately, no universally applicable and profitable farm disposal of cornstalks is yet in sight. So attention has been turned to the industrial concentration and utilization of cornstalks at the same time not neglecting the search for more satisfactory and practicable farm uses.

The tremendous quantity and wide distribution of cornstalks in this country increases the difficulties of their profitable and complete utilization as a means of fighting the corn borer. The yield of cured cornstalks or corn fodder is variously estimated at from a ton to, in some instances, 2 tons per acre, giving a total of approximately 100 million tons to possibly 150 million tons of cornstalks as an average in this country annually. Of course, not all of these would be available for other than farm utilization.



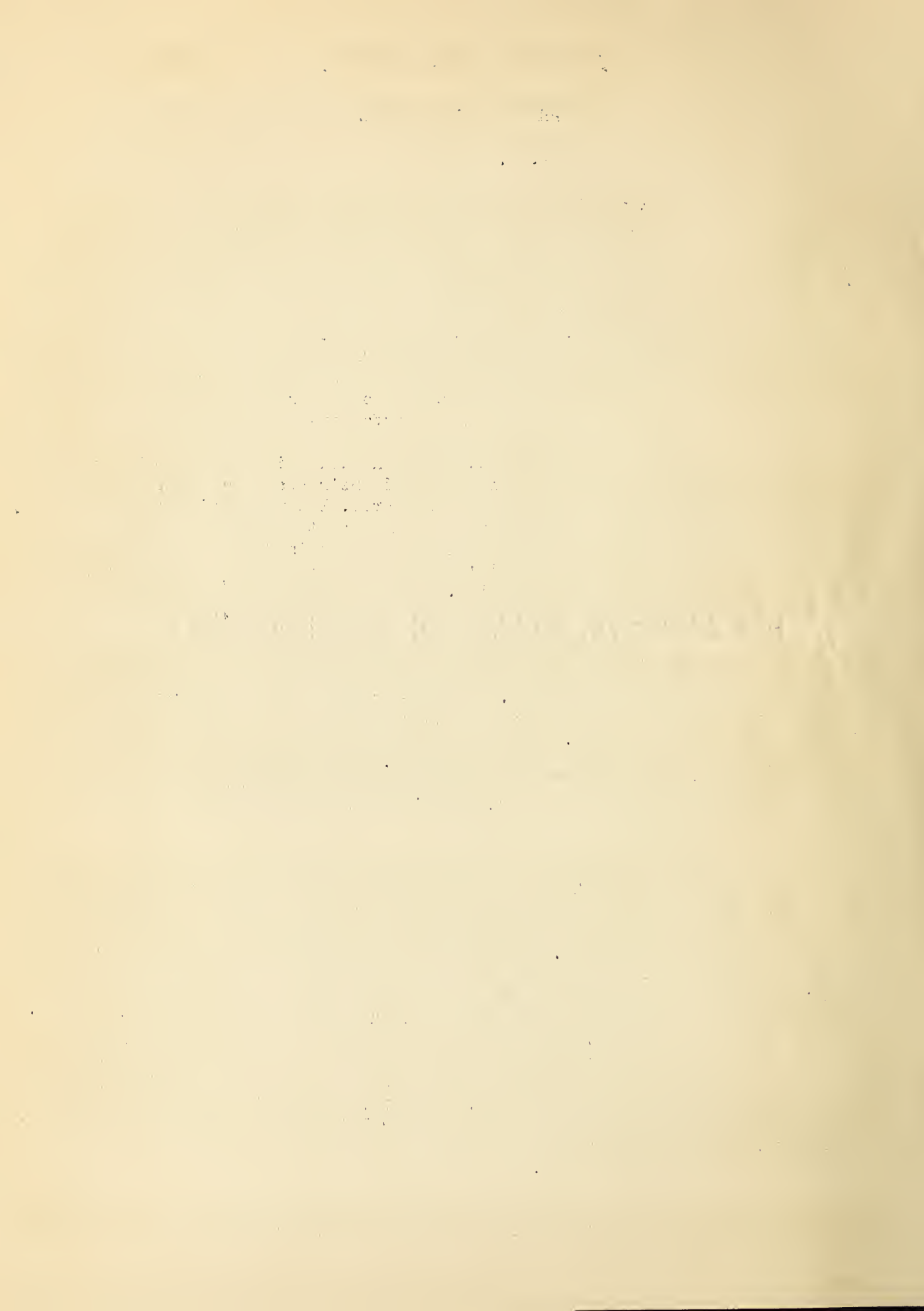
One of the means of utilization that has attracted the attention of investigators for more than 100 years is the use of cornstalks in making paper and similar products. There are several times as many cornstalks produced in this country as would be required to make all the paper and board in which they could be used. So we see at once that this means of utilization is far from sufficient to meet the situation. Nevertheless, it is by far the most promising and worth-while outlet that has so far been suggested, and this outlet is worth the most careful reinvestigation under the conditions brought about by the corn borer.



Paper was made from cornstalks as far back as 1765, when Jacob Schaffers of Germany, prepared papers from many different kinds of vegetable waste materials in looking for a substitute for rags, which were then the only paper-making material. Cornstalks have been studied by a number of different investigators from time to time since that date. On two occasions in the last 25 years the Department of Agriculture has studied the matter very carefully on a mill scale. The net results of these investigations have been to show quite conclusively that technically it is very easy to make paper or board, such as wall board, building board,

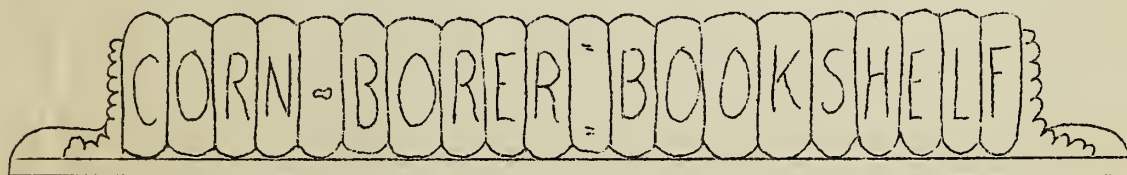
and insulation board from cornstalks. However, the difficulty heretofore has been to make money in this way. Though several firms have tried to do this, it has not been a financial success simply because paper and board could be made more profitable from wood.

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It is obvious that with the decreasing supply of any raw material and its increasing cost other raw materials will receive more and more consideration, and that as the wood supply decreases and its cost increases there will come a time when another raw material for paper making will be practicable. The question is has this time come when cornstalks can be used as a raw material for making paper and board. We don't know. But several firms are trying to find out by initiating what promises to be rather large scale experiments. It will probably take four or five years to give a conclusive answer. It will be some time therefore before it is known whether or not the time has come when cornstalks may be profitably used for making paper and paper board, and also cellulose for various industrial uses. It may be pointed out that there is reason to think that useful building and insulation board can be made from cornstalks. Theoretically, at least, it would seem that at the present price for such board this might be done profitably. But this too remains to be proved.



"Learning to Live With the Corn Borer," by W. P. Flint, J. C. Hackleman, F. E. Bauer, and I. P. Blauser, Circular 321, University of Illinois, College of Agriculture and Agricultural Experiment Station.

This circular has been found to be the most useful in corn-borer educational work in Illinois, reports W. P. Flint, chief entomologist of the Illinois Natural History Survey and consulting entomologist of the college. In addition, United States Department of Agriculture Farmers' Bulletin 1548 has been given to those who are particularly interested. He adds that in special cases where teachers, farm advisers, or farmers are especially interested in the problem, Technical Bulletin No. 53 is suggested.

